United States Patent [19]

Burton

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[45] **Date of Patent: Dec. 27, 1988**

[54] **DISPENSER FOR BEVERAGES AND THE LIKE**

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[21] Appl. No.: **41,214**

[22] Filed: **Apr. 22, 1987**

[51] **Int. Cl.**[4] **B65D 5/56**

[52] **U.S. Cl.** **222/129.3;** 222/144.5

[58] **Field of Search** 222/129.1, 129.3, 129.4, 222/135, 144.5, 252, 263, 266, 372, 385, 330

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Primary Examiner—Michael S. Huppert
Attorney, Agent, or Firm—Buchanan Ingersoll

[57] **ABSTRACT**

A dispenser for dispensing flavored beverages and other liquids is disclosed which is comprised of a housing having a base and a front plate with a first slot and a second slot extending at an angle from the first slot. Within the housing on its base are provided at least one container with a plunger-type pump. A tube extends from the pump to an opening in the front plate. Also provided is a nozzle at the opening of the front plate which is connected to a liquid supply source. A valve is attached to the nozzle having an outwardly extending stem which is engaged by a bar pivotally attached to the housing. This bar is substantially parallel to the first slot. Finally, a lever is attached to the housing so that it may extend and move through the first and second slot. The lever is sized and positioned so as to be able to engage and activate a plunger-type pump and the bar when moved downwardly through a second slot. A slit-type valve is preferably attached to the end of each tube which extends from a plunger-type pump.

20 Claims, 3 Drawing Sheets

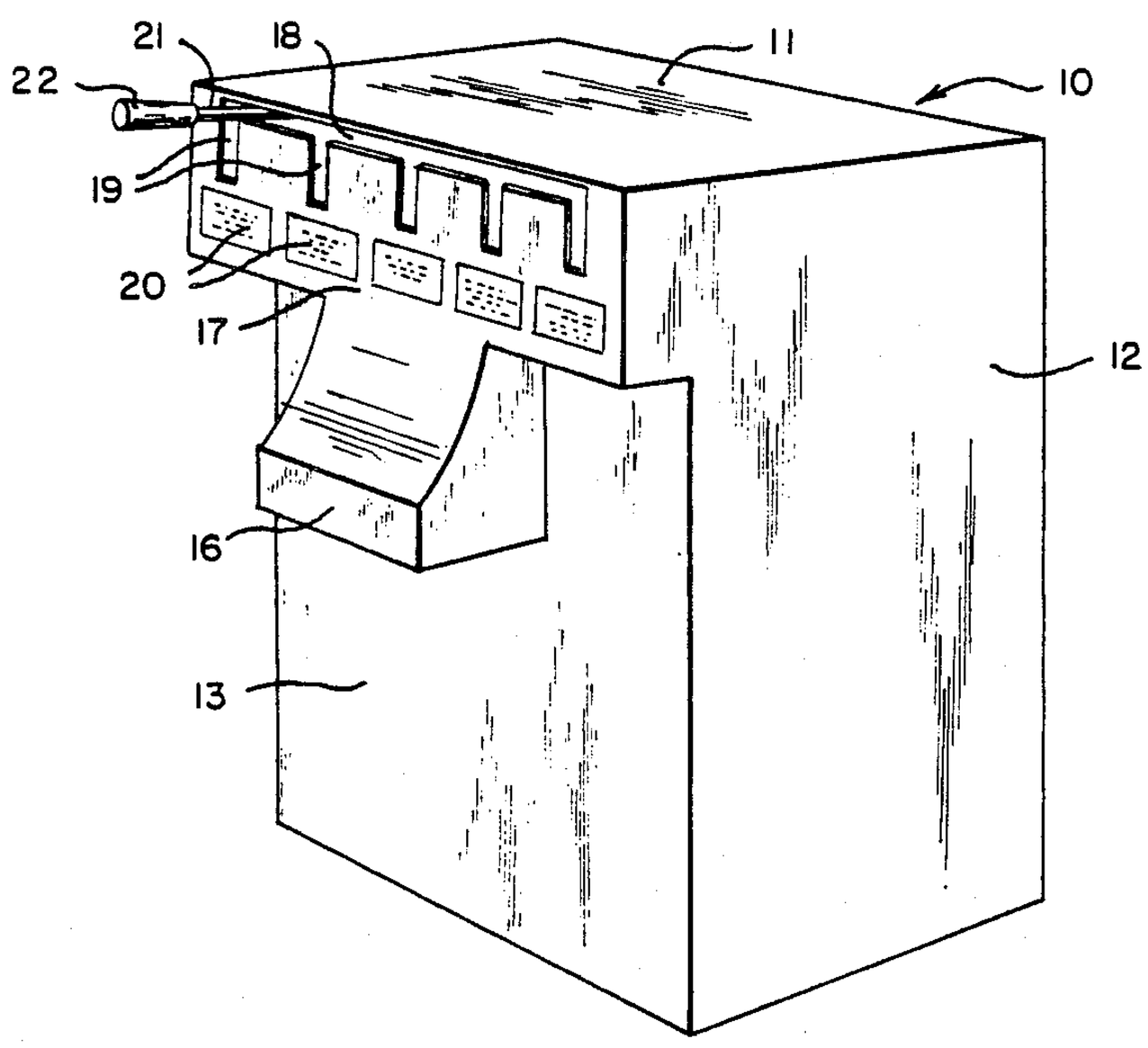

Fig. 1.

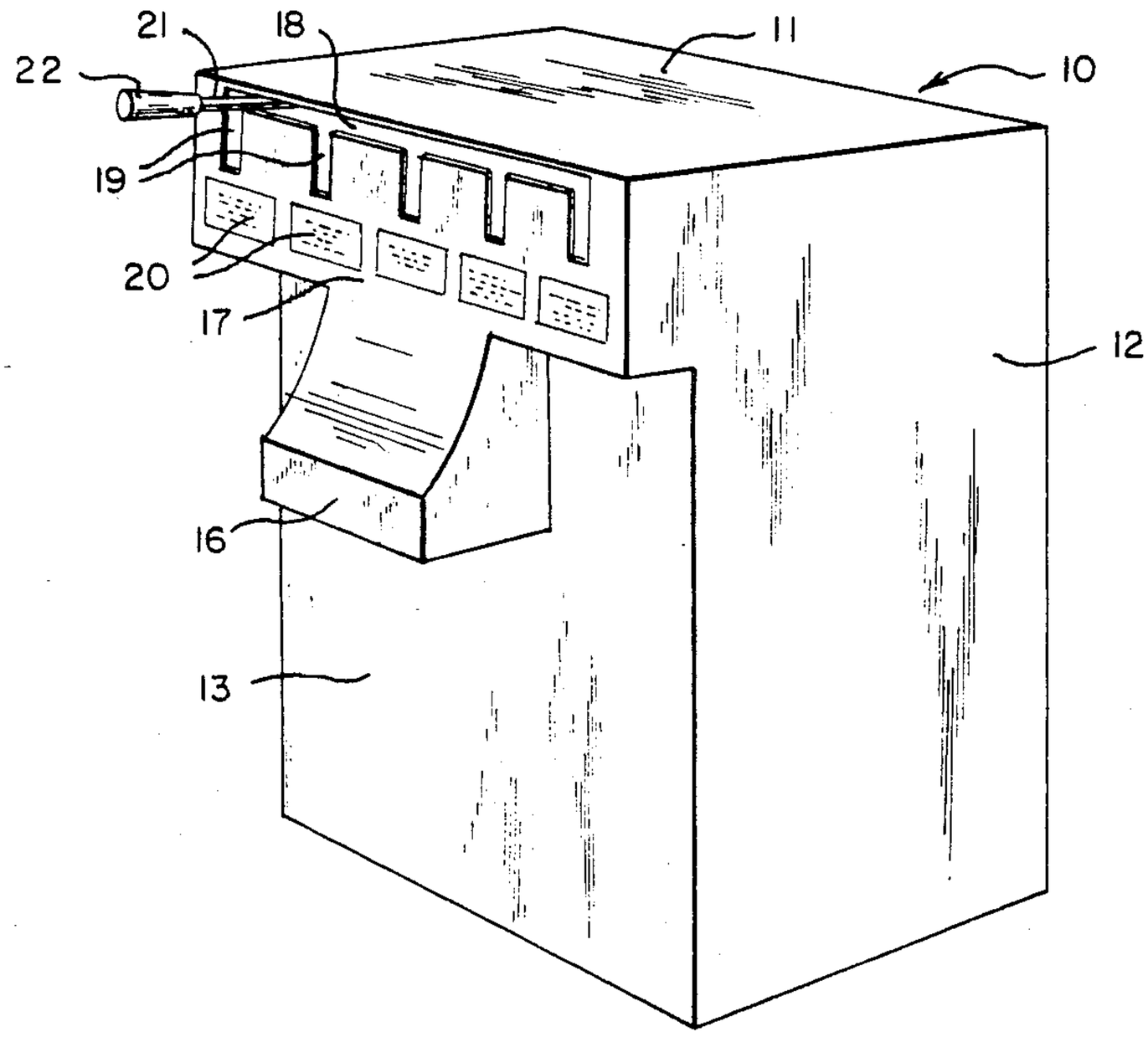

Fig. 2.

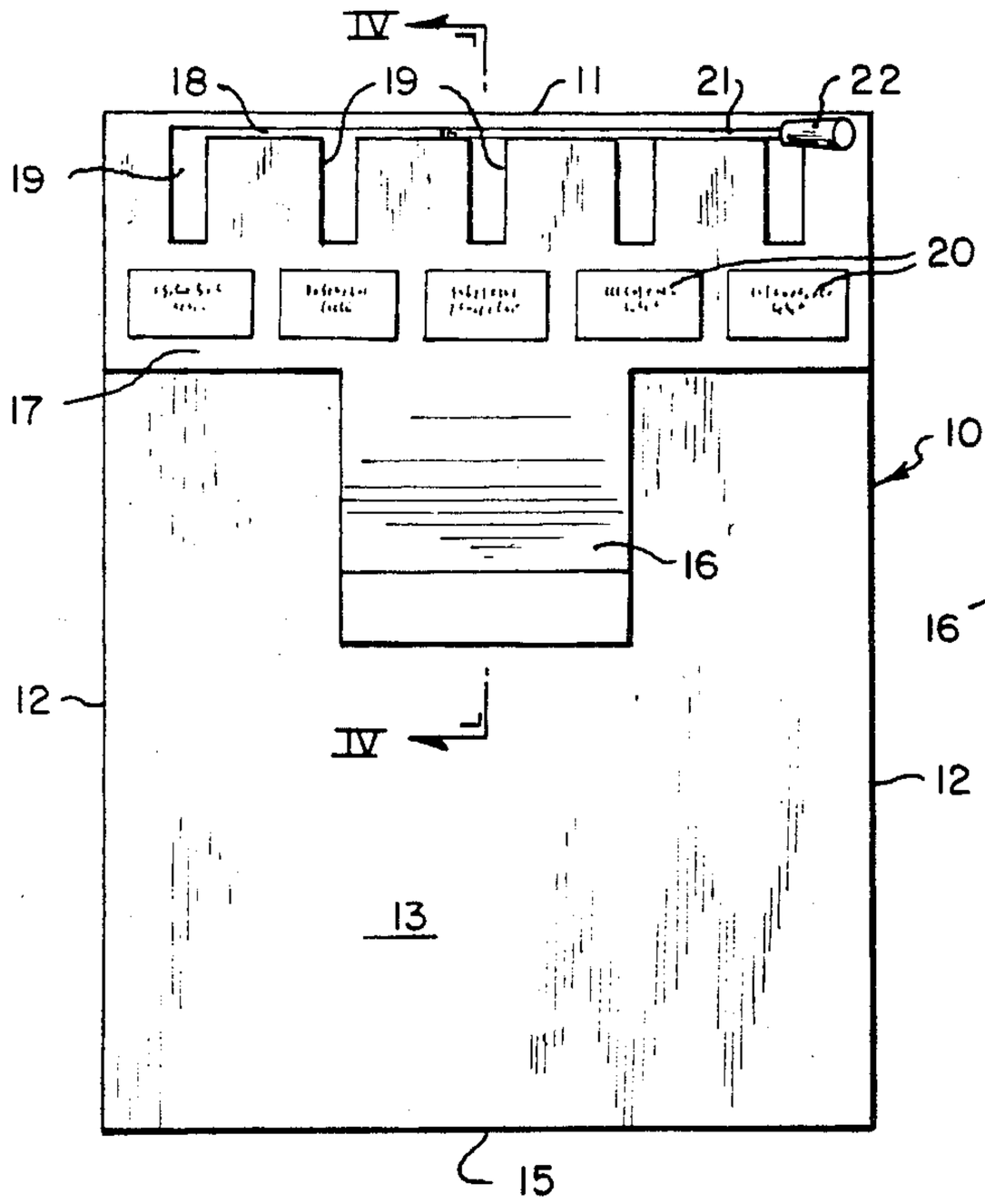

Fig. 3.

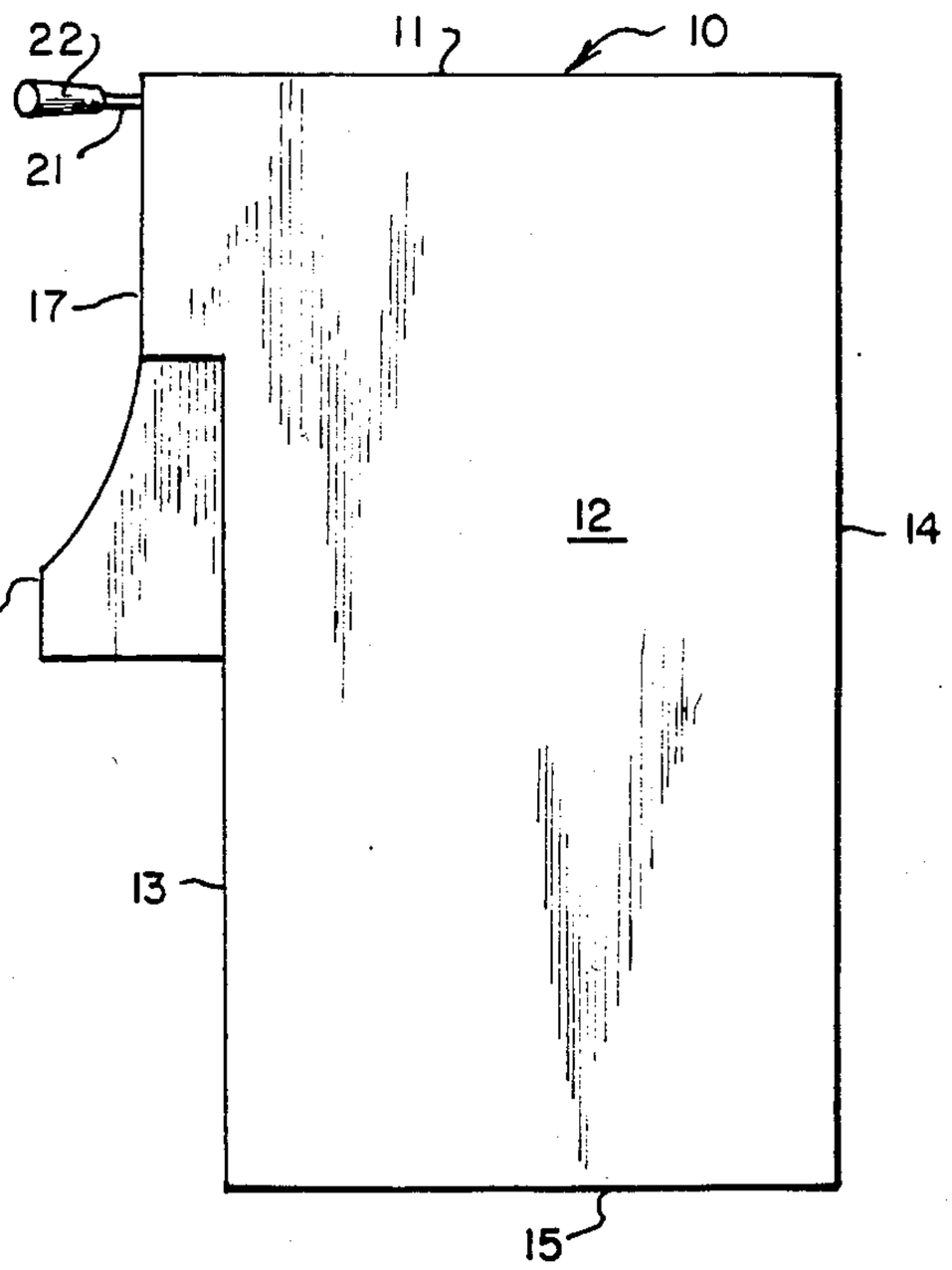

Fig. 4.

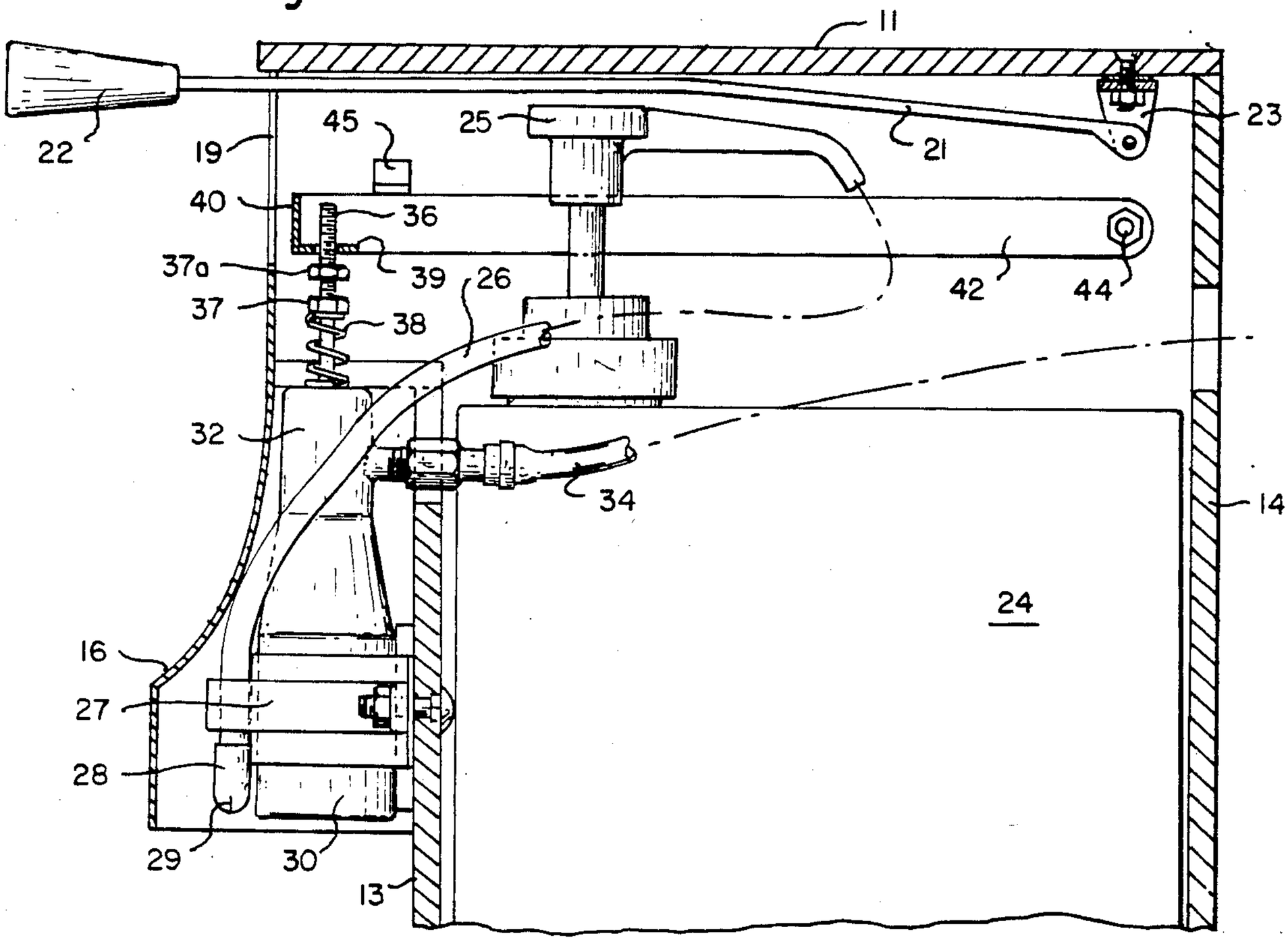
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Fig. 5.

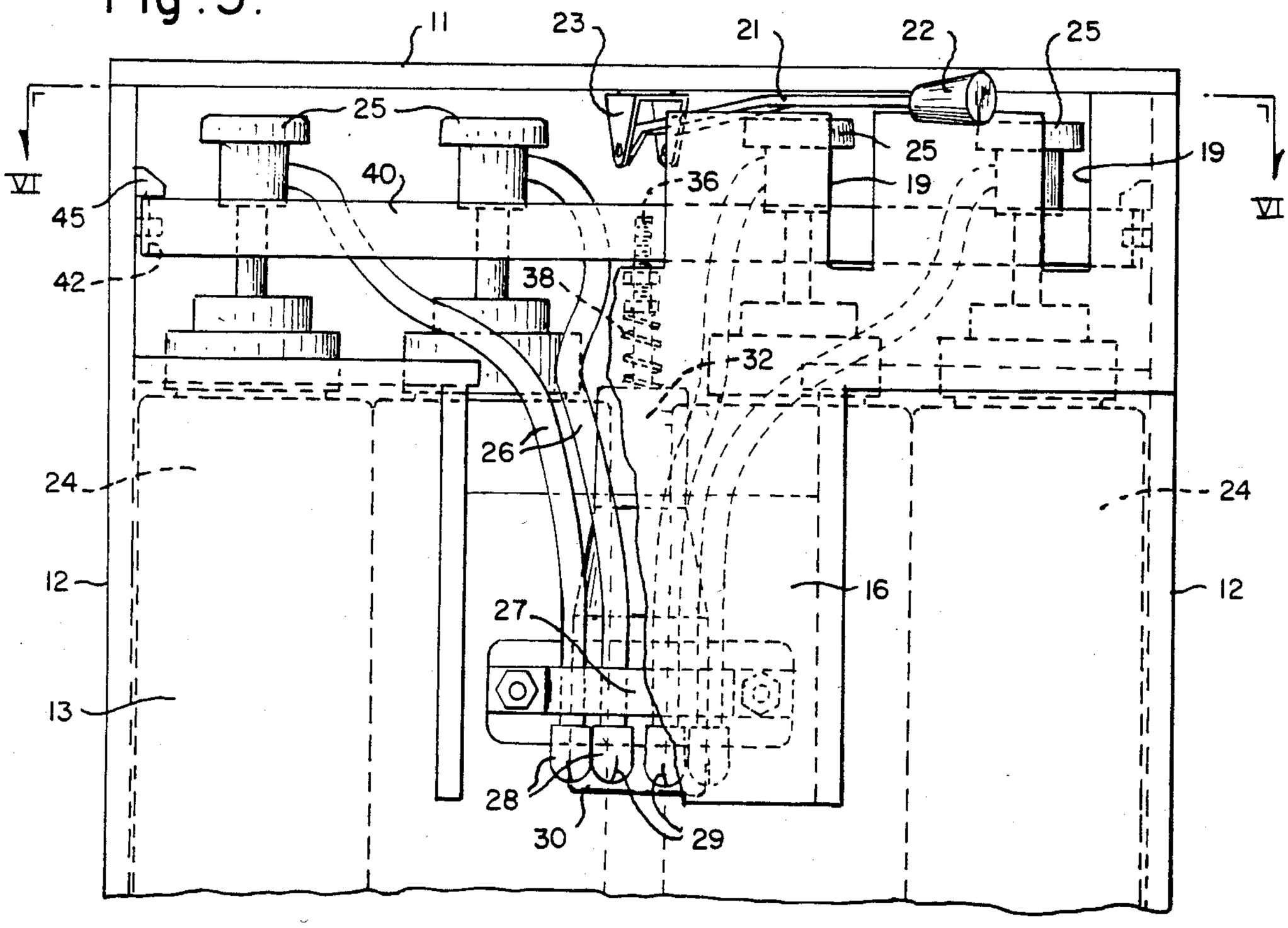
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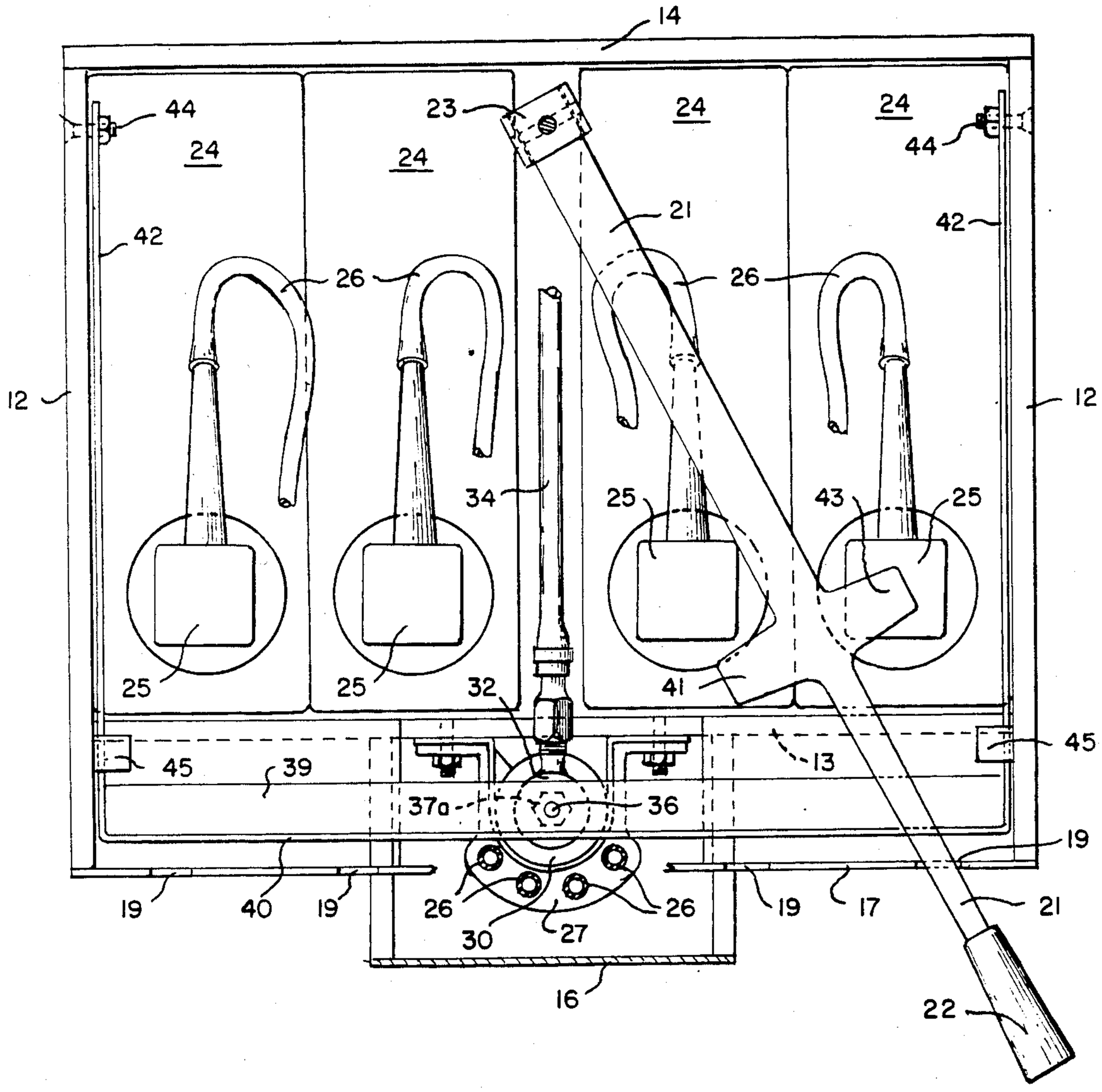
Fig. 6.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DISPENSER FOR BEVERAGES AND THE LIKE

FIELD OF INVENTION

The present invention relates to dispensers for beverages and other liquids.

DESCRIPTION OF THE PRIOR ART

A number of dispensers have been developed for dispensing liquids of the type which include a carrier and optional pigments or flavors. These machines are particularly useful for dispensing carbonated beverages and mixing various colors of paints. Generally, there is provided a number of reservoirs having colors or flavors which are dispensed into the container along with a basic carrier typically white paint or club soda.

One typical carbonated beverage dispenser consists essentially of a discharge nozzle mounted on a counter or stand connected through piping to a replaceable storage container filled with pre-mixed carbonated beverage. A pressurized cylinder of carbon dioxide is connected to the container. This cylinder is not used for carbonating, but is merely a source of pressure for discharging the beverage through the container. If several flavors or varieties of beverage are desired, separate storage containers and nozzles are used for each selection.

Some soda fountains and similar establishments have their own carbonating equipment installed on the premises. They produce carbonated water to which flavors are added. Typically, the beverage is mixed at the point of sale either in the glass or by means of a mixing nozzle which injects syrup into the water as it is dispensed into a glass. These systems have several containers of flavor Flavors are dispensed either by gravity flow or by pressurizing the flavor containers.

Most of the prior art dispensers have been developed for commercial use. They are too large or too expensive for use in the home. Consequently, there is a need for an inexpensive dispenser for home use which can be used to mix beverages and other liquids.

SUMMARY OF THE INVENTION

The present invention is a dispenser which is particularly useful for dispensing flavored beverages. I prefer to provide a plurality of containers of flavors having a plunger-type valve of the type normally found on hand lotion and soft soap bottles. These containers are positioned in a housing. In the housing there is a lever which is pivotable in both the vertical and horizontal directions. I provide a horizontal bar which is positioned to extend in front of the plunger-type pumps. This horizontal bar is connected to a push-type valve which dispenses the liquid base material, preferably from a pressurized container. Flavor syrup is dispensed by positioning the moveable lever over the pump of a flavor dispenser and pressing down. This causes the plunger of the pump to move downward and release flavor syrup. If one continues to press the lever down it will strike the bar which controls the delivery of liquid. Continued downward pressure on the lever will push the bar down which opens the valve and dispenses the base liquid.

I prefer to provide a tube extending from each flavor dispenser valve to a position beneath which a cup can be placed. At the distal end of each tube I provide an inexpensive slit-type eye dropper valve. If carbonated beverages are to be served the plug valve is attached to a diffuser. One places a cup or other container below the diffuser and distal ends of the flavor tubes. Then he positions the moveable lever over a flavor pump and pushes down to dispense a selected flavor into the cup. If more flavor is desired, he lifts the lever and presses it down again. If he continues to press the lever downward, so it moves the horizontal bar, he will dispense the liquid material Thus, one controls the dispensing of flavor and liquid with a single lever.

I prefer to provide a front plate on the housing which has horizontal slot from which a series of vertical slots are extended. The lever extends through the horizontal slot and can be positioned over any vertical slot. Each slot corresponds to a flavor and one liquid only selection. Thus, when the lever is pushed through a vertical slot it will now be over a flavor pump and the selected flavor syrup will be dispensed. Appropriate labels are placed on the front plate to identify the flavor which corresponds to each slot.

My dispenser can be made primarily of lightweight molded plastic. It is compact enough to fit on a counter and easy to use. Other objects and advantages of the invention will become apparent as the following description of the present preferred embodiments proceeds.

DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of my dispenser;

FIG. **2** is a front view of the embodiment of FIG. **1**;

FIG. **3** is a side elevation view of my dispenser as viewed from the right side of FIG. **2**;

FIG. **4** is a sectional view of the top half of my dispenser taken along, the line IV—IV of FIG. **2**;

FIG. **5** is a front view of the top half of my dispenser with the nozzle hood and portion of the front plate removed; and

FIG. **6** is a cross-sectional view taken along line VI—VI of FIG. **5**.

BRIEF DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIGS. **1**, **2** and **3**, I provide a housing **10** in which there are contained a plurality of flavor or pigment containers. Housing **10** is generally rectangular having a flat top **11**, opposite sides **12**, front **13**, optional back **14** and bottom **15**. A nozzle hood **16** and front plate **17** are attached to the front. A horizontal slot **18** and a plurality of vertical slots **19** are provided in the front plate **17**. I prefer to provide labels **20** on the front plate **17** to identify each vertical slot **19**. A lever **21** with a handle **22** extends through slot **18**. This lever **21** is attached to the housing **10** by a universal joint **23** (see FIG. **4**). This permits the lever to be moved horizontally through slot **18** and vertically through any slot **19**.

As shown in FIGS. **4** thru **6**, I provide a plurality of flavor containers **24** which are placed in the housing on bottom **15**. Preferably, the containers are relatively narrow to allow several containers to fit within the housing **10**. These containers **24** can be replaced simply by removing the back **14** of the housing **10** and sliding the container out. On each container there is a plunger-type pump **25**. By pushing the plunger **25** down one pumps pigment or flavor from container **24**. As shown in FIG. **5**, I prefer to use the same plunger-type pump **25** for all containers **24**. I also prefer to make containers **24** the same size. Then the containers **24** are interchangeable and every plunger **25** will fit every container **24**. I

further prefer to make both the containers **24** and plungers **25** of plastic. A tube **26** extends from each plunger-type pump **25** to a remote position beneath which one may place a cup or other container. At the distal end of tube **26** there is an eye dropper type valve **28** with a slit **29**. Tubes **26** are arranged in a spacer **27** about a diffuser or other nozzle **30** which is connected to a plug valve **32** that in turn is connected to supply tube **34**. Tube **34** leads to a remote source of preferably pressurized liquid such as club soda. The liquid source may also be positioned to allow gravity feed of liquid. Plug valve **32** has a stem **36** which extends upwardly through bar **40**. A spring **38** is provided on the stem to keep plug valve **32** closed while under pressure from liquid in supply tube **34** and to maintain bar **40** in a predetermined rest position. In this rest position valve **32** is closed. Stem **36** is threaded at its upper end and extends through a hole in tab **39** on bar **40**. Nut **37** is provided on stem **36** to adjust the tension on spring **38** and plug valve **32**. A second nut **37*a*** determines the point where bar **40** engages valve stem **36**. Control bar **40** has arms **42** which extend from either end and are pivotally attached to sides **12** by connectors **44**. Because it is pivotably attached through arms **42**, bar **40** can move up and down. Normally spring **38** will keep bar **40** in its uppermost position as shown in the drawings. Screws or bosses **45** may be provided in both sides **12** of the housing **10** to block upward movement of bar **40** above a predetermined position. In this position plug valve **32** is closed and no liquid flows through nozzle **30**. When lever **21** is moved through a vertical slot **19** it will engage bar **40** and press it down. Downward movement of bar **40** opens valve **32** and allows liquid to flow through nozzle **30**. When lever **21** is at its lowermost position in slot **19**, valve **32** will be fully open. As can be seen in FIG. **5** I prefer to allow lever **21** to travel about half way through slot **19** before it engages bar **40**. As will be seen, this allows me to pump flavors from a container **24** without dispensing liquid through nozzle **30**. Further downward movement of lever **21** releases and mixes both flavor syrup and liquid soda water.

As can be clearly seen in FIG. **6**, lever **21** is pivotally attached by joint **23** to housing **10** which allows it to be positioned over any of the flavor pumps **25** or in a neutral position immediately above valve **32**. I have found it desirable to provide wings **41** and **43** on the lever for easy engagement of the tops of the flavor pumps **25**. As can be seen from FIG. **6**, when the lever **21** is in a far right position, wing **43** will be over the far right flavor pump. Conversely, wing **41** will be over the far left flavor pump when lever **21** is in the far left slot. The centerline of lever **21** will be over a flavor pump when it is in the left center slot or the right center slot. Only liquid, such as club soda, can be released when lever **21** moves downward and depresses bar **40**. When lever **21** is in the center slot no flavor pump can be activated. When lever **21** or its wings **41** and **43** is over flavor pump **25** one can dispense flavor by pressing the lever down until it reaches bar **40**. If one continues to press lever **21** downwardly it will engage bar **40**. As bar **40** moves downward it moves valve stem **36** which opens plug valve **32** allowing liquid to be dispensed through the diffuser **30**. If one stops the downward motion of lever **21** when it reaches bar **40** and returns lever **21** to its original, uppermost position one can dispense more flavor without any liquid having been dispensed. When lever **21** is in the center slot only liquid can be dispensed. Thus, the user can determine both the variety and amount of flavor dispensed. My dispenser also enables the user to select only flavor or only liquid such as club soda.

In the drawings I have shown four flavor containers **24** and one neutral position. It should be readily apparent to those skilled in the art that a greater or lesser number of containers may be used. However, I have found that four containers each having a capacity of approximately **64** ounces provides an adequate selection for most people. Since the containers are easily removable one may keep additional flavor containers on hand and interchange them as desired.

I prefer to make nearly all of the components of my dispenser from plastic. Then my dispenser is inexpensive, lightweight and easily placed on a counter or bar.

I have described and illustrated activation of the pumps and horizontal bar by movement of the lever toward the base of the container which I call downward movement. It should be apparent to those skilled in the art that pumps **25**, bar **40** and lever **21** could be sized and positioned so that movement of the lever upward toward the top of the container activates the pumps and liquid dispenser valve. Also one could easily rotate my dispenser ninety degrees without departing from my invention even though the horizontal slot is now vertical and the vertical slots are horizontal.

Even though I have described this dispenser in the context of carbonated beverages, it should be readily apparent that one could use a variety of materials with this dispenser. For example, one might choose to fill containers **12** with various types of liquors and dispense club soda. One might also choose to fill containers **24** with pigments and dispense white paint. I have shown a diffuser valve in this dispenser, but it should be readily apparent that the diffuser is not necessary particularly where non-carbonated liquids are being dispensed.

Although I have shown and described various embodiments of the present invention, it should be distinctly understood that the invention is not limited thereto, but may be variously embodied within the scope of the following claims.

I claim:

1. A dispenser comprised of

a. a housing having a base and a front wherein an opening is provided in the front through which liquids can be dispensed and a first slot and at least one second slot extending at an angle from the first slot are provided in the front;

b. at least one container positioned within the housing on its base;

c. a plunger type pump attached to the container;

d. a tube extending from the pump to the opening at the front plate;

e. a nozzle attached to the housing in a manner to allow liquid to flow through the nozzle and out of the opening in the front plate;

f. a valve attached to the nozzle having an outwardly extending stem movement of which opens and closes the valve and having an inlet which may be connected to a liquid supply;

g. a bar pivotally attached to the housing, said bar extending substantially parallel to the first slot and attached to the valve stem so that movement of the bar will move the valve stem to open the valve; and

h. a lever attached to the housing in a manner so that it may extend and move through the first and second slots an sized and positioned so that it will engage and activate said plunger type pump and

the bar when moved downwardly through said second slot.

2. The dispenser of claim **1** wherein the front has a third vertical slot extending from the first slot so that the lever will engage the bar and not engage a pump when the lever travels through the third slot.

3. The dispenser of claim **1** wherein the first slot, at least one second slot, plunger type pump, bar pivotably attached to the housing, and lever are sized and positioned so that the lever will activate only the pump when the lever travels through a portion of the second slot and move the bar when it continues through the second slot.

4. The dispenser of claim **1** also comprising a slit type valve attached to the tube extending from the pump.

5. The dispenser of claim **1** also comprising a spring positioned around and biasing the valve stem.

6. The dispenser of claim **5** wherein the valve stem is threaded and also comprising a nut on the valve stem for adjusting the tension of the spring.

7. The dispenser of claim **6** also comprising a second nut on the valve stem for determining the point at which the bar engages the valve stem.

8. The dispenser of claim **1** also comprising a removable back attached to the base of the housing.

9. The dispenser of claim **1** wherein there are a plurality of containers, the front has a plurality of vertical slots extending from the first slot and the lever is a bar having on opposite sides a wing extending from each side, each wing being sized and positioned to engage at least one outermost plunger type pump when the lever is in a outermost vertical slot.

10. The dispenser of claim **1** also comprising at least one boss attached to the housing and positioned so as to prevent the bar from moving past the boss.

11. The dispenser of claim wherein the containers have screw top openings into which the plunger type pumps are fitted.

12. The dispenser of claim **11** wherein each plunger type pump will fit all containers.

13. The dispenser of claim **1** wherein the container and pumps are plastic.

14. The dispenser of claim **1** having a plurality of containers, each container having a narrow width to permit several containers to be placed in the housing.

15. The dispenser of claim **1** also comprising a liquid supply source connected to the valve.

16. The dispenser of claim **15** also comprising a pressurized liquid within the liquid supply source.

17. The dispenser of claim **15** wherein the liquid supply source is positioned to allow gravity to cause liquid to flow from the supply source to the valve.

18. The dispenser of claim **1** also comprising a valve stem wherein said valve stem is threaded and extends from the valve through the bar, a first nut on the valve stem adjacent to the bar, a spring on the valve stem and a second nut on the valve stem for tensioning the spring.

19. The dispenser of claim **1** wherein the nozzle is a diffuser nozzle.

20. The dispenser of claim **19** wherein the nozzle and valve are formed integrally as one unit having the diffuser positioned so that liquid flows through the valve and then through the diffuser.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 4,793,518

DATED : December 27, 1988

INVENTOR(S) : JOHN W. BURTON

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 2, line 8, after "material" insert --.--.

Column 6, line 4, Claim 11, after "claim" insert --1--.

Column 6, line 23, Claim 18, change the third occurrence of "the" to --said--.

Signed and Sealed this

Thirtieth Day of May, 1989

Attest:

DONALD J. QUIGG

Attesting Officer

Commissioner of Patents and Trademarks